WO 2004/094226 PCT/US2004/012242

## **Claims**

- 1 1. A sailing craft, comprising:
- 2 a frame;
- a main sail affixed to the frame;
- 4 two buoyant wheels positioned on one side of the frame; and
- 5 two buoyant wheels positioned the opposite side of the frame.
- 1 2. The sailing craft of claim 1 wherein each wheel comprises one or more fins on its
- 2 perimeter.
- 1 3. The sailing craft of claim 2 wherein each of the wheels comprises a wheel body, and the
- 2 one or more respective fins are affixed to each respective wheel body.
- 1 4. The sailing craft of claim 2 wherein each of the wheels comprises a wheel body, and the
- 2 one or more respective fins are integral with each respective wheel body.
- 1 5. The sailing craft of claim 1 wherein at least two of the wheels are mounted to a respective
- 2 axle that is attached to the frame such that each respective wheel can rotate about each respective
- 3 axle.
- 1 6. The sailing craft of claim 1, wherein one or more of the wheels are configured to turn
- 2 with respect to the direction of the craft at the direction of a sailor to provide steering.
- 1 7. The sailing craft of claim 6, wherein the forward one of the two buoyant wheels
- 2 positioned on the one side of the frame and the forward one of the two buoyant wheels
- 3 positioned on the opposite side of the frame each turn.
- 1 8. The sailing craft of claim 6, wherein the aft one of the two buoyant wheels positioned on
- 2 the one side of the frame and the aft one of the two buoyant wheels positioned on the opposite
- 3 side of the frame each turn.
- 1 9. The sailing craft of claim 1, further comprising two additional wheels, one additional
- 2 wheel positioned on the one side of the frame and the other additional wheel positioned the
- 3 opposite side of the frame.

WO 2004/094226 PCT/US2004/012242

1 10. The sailing craft of claim 1, wherein at least one of the wheels is designed to plane as

- 2 speed increases.
- 1 11. The sailing craft of claim 1, wherein the frame is rectangular in shape.
- 1 12. The sailing craft of claim 11 wherein a deck is attached to the frame.
- 1 13. The sailing craft of claim 12 wherein the deck comprises a trampoline.
- 1 14. The sailing craft of claim 13 wherein the deck trampoline comprises polypropylene fabric
- 2 attached to the frame.
- 1 15. The sailing craft of claim 1, further comprising at least one of a jib sail and a spinnaker
- 2 sail.
- 1 16. The sailing craft of claim 1 wherein the frame is not buoyant.
- 1 17. The sailing craft of claim 1 wherein the frame comprises a torsion box structure.
- 1 18. The sailing craft of claim 1 wherein each of the wheels provide at least one of steering,
- 2 tracking, and floatation.
- 1 19. The sailing craft of claim 18 wherein each of the wheels provide at least two of steering,
- 2 tracking, and floatation.
- 1 20. The sailing craft of claim 19 wherein at least one wheel provides all of steering, tracking,
- 2 and floatation.
- 1 21. A method for constructing a sailing craft, comprising the steps of:
- 2 assembling a frame suitable for supporting a sailor;
- affixing a sail to the frame;
- 4 positioning buoyant wheels on one side of the frame; and
- 5 positioning buoyant wheels on the opposite side of the frame.
- 1 21. A kit for assembling a sailing craft, comprising:
- 2 parts capable of assembly into a frame suitable for supporting a sailor;
- 3 mountings configured to affix a main sail to the frame; and
- 4 buoyant wheels suitable for positioning on the frame.

WO 2004/094226 PCT/US2004/012242

1 22. The kit of claim 21, wherein the parts comprise at least one part selected from the

- 2 set of rods, tubing, bolts, and connectors.
- 1 23. A sailing craft, comprising:
- 2 a frame in the shape of a cross;
- a main sail affixed to the frame;
- 4 at least four buoyant wheels each positioned near an end of the cross.
- 1 24. A buoyant wheel for use on a sailing craft, comprising:
- a rim configured for mounting on an axle such that the wheel rotates about the axle;
- a buoyant body portion affixed to the rim: and
- a fin about the perimeter of the body configured to provide at least one of tracking and
- 5 steering.
- 1 25. The wheel of claim 22 wherein the fin is affixed to the body.
- 1 26. The wheel of claim 23 wherein the fin is integral with the body.
- 1 27. The wheel of claim 24 further comprising a second fin about the perimeter of the body
- 2 configured to further provide at least one of tracking and steering.
- 1 28. A sailing craft comprising a frame for supporting a sailor, a deck, a main sail, and two or
- 2 more wheels rotating about an axle, each respective axle affixed to the frame.
- 1 29. The sailing craft of claim 28 wherein one or more of the wheels are affixed such that they
- 2 can be turned with respect to the direction of the craft.
- 1 30. The sailing craft of claim 28 wherein one or more of the wheels are buoyant.
- 1 31. The sailing craft of claim 28 wherein one or more of the wheels each have one or more
- 2 fins about the respective wheel.
- 1 32. The sailing craft of claim 28 wherein one or more of the wheels are configured to plane at
- 2 increased sailing speeds.